

## PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference WP/3824.WOP/P134	<b>FOR FURTHER ACTION</b>		See Form PCT/IPEA/416
International application No. PCT/GB2004/001377	International filing date (day/month/year) 25.03.2004	Priority date (day/month/year) 25.03.2003	
International Patent Classification (IPC) or national classification and IPC B41J2/14			
<p><b>Applicant</b> <b>WILLETT INTERNATIONAL LIMITED ET AL.</b></p> <p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of 1 sheets, as follows:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</li> <li><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</li> </ul> <p>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)), containing a Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p> <p>4. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Box No. I Basis of the opinion</li> <li><input type="checkbox"/> Box No. II Priority</li> <li><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li><input type="checkbox"/> Box No. IV Lack of unity of invention</li> <li><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li><input type="checkbox"/> Box No. VI Certain documents cited</li> <li><input type="checkbox"/> Box No. VII Certain defects in the international application</li> <li><input checked="" type="checkbox"/> Box No. VIII Certain observations on the international application</li> </ul>			
Date of submission of the demand 25.04.2005	Date of completion of this report 03.08.2005		
Name and mailing address of the International preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer Bardet, M Telephone No. +31 70 340-4186		



# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.  
PCT/GB2004/001377

## Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
  - This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
    - international search (under Rules 12.3 and 23.1(b))
    - publication of the international application (under Rule 12.4)
    - international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

### Description, Pages

1-45 as originally filed

### Claims, Numbers

2-7 as originally filed  
1 filed with telefax on 24.04.2005

### Drawings, Sheets

1/4-4/4 as originally filed

- a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
- 3.  The amendments have resulted in the cancellation of:
  - the description, pages
  - the claims, Nos.
  - the drawings, sheets/figs
  - the sequence listing (*specify*):
  - any table(s) related to sequence listing (*specify*):
- 4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
  - the description, pages
  - the claims, Nos.
  - the drawings, sheets/figs
  - the sequence listing (*specify*):
  - any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

# **INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

International application No.  
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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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**1. Statement**

Novelty (N)	Yes: Claims	1-7
	No: Claims	
Inventive step (IS)	Yes: Claims	1-7
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-7
	No: Claims	

**2. Citations and explanations (Rule 70.7):**

**see separate sheet**

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**Box No. VIII Certain observations on the international application**

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The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**see separate sheet**

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**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

Reference is made to the following document:

D1: EP-A-0 109 242 (WILLETT INTERNATIONAL LIMITED) 23 May 1984 (1984-05-23)  
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The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and shows (the references in parentheses applying to this document):  
A method of applying an image forming composition using a drop on demand ink printer (11), wherein:

- the printer is operated at a fluid pressure of between 0.1 and 6.2 bar (see page 17, line 25 to page 18 line 2, range of 1.5 to 90 psi is equal to range of 0.1 to 6.2 bar) and
- the image forming composition has a viscosity of less than 100 cp. (see page 17, line 14 to 20).

The subject-matter of claim 1 differs from this known D1 in that:

- a specific pressure range (between 1 and 3.5 bar) is used, and
- it is a method **of** applying... ...a **mesh fabric**.

  
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The subject-matter of claim 1 is therefore new (Article 33(2) PCT).

The problem to be solved by the present invention may be regarded as setting fluid pressure and viscosity so that the method is adapted to forming images on mesh fabrics.

The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) for the following reasons:  
No document discloses using the specific pressure range between 1 and 3.5 bar. Choosing this specific range is linked to forming images on mesh fabrics, and document D1 does not hint at using the printer for printing on mesh fabrics. Thus the skilled person would not be contemplate to use this specific range.

Claims 2 to 7 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

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**Re Item VIII:**

Claim 7 uses the term "surprisingly", which has no well-recognised meaning and leaves the reader in doubt as to the meaning of the technical features to which it refers, thereby rendering the definition of the subject-matter of said claim unclear, Article 6 PCT.



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CLAIMS

1. A method of applying an image forming composition to one or more sides of a mesh fabric using a drop on demand ink printer, characterised in that, when applying the

5 composition to the mesh fabric, the printer is operated at a fluid pressure of between 1 and 3.5 bar, and the image forming composition used has a viscosity of less than 100 cp.

10 ~~2. A method according to claim 1 wherein the viscosity of the image forming composition is in the range of 5 to 20 cp.~~

15 3. A method according to claim 1 or claim 2 wherein the drop on demand ink jet printer comprises an array of nozzles, a solenoid valve to, in use, control the flow of the image forming composition through the nozzle orifices, the nozzle orifices having a diameter in the range of 20 to 200 $\mu$ m, and in which the plunger of the solenoid valve 20 has a diameter of less than 2.5 mm.

25 4. A method according to claim 3, wherein the nozzle orifices have a diameter in the range of substantially 40 to 60 $\mu$ m for thin mesh fabric types.

5. A method according to any preceding claim wherein the drop on demand ink jet printer solenoid valve mechanisms for controlling the flow of fluid to the nozzle orifice

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